

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (canceled).

Claim 2 (previously presented): The laser transmitter of claim 5, wherein the digital control signal sets a common-mode of the third pair of differential signals.

Claim 3 (previously presented): The laser transmitter of claim 5, wherein the digital control signal sets a peak amplitude of the third pair of differential signals.

Claim 4 (previously presented): The laser transmitter of claim 5, wherein the control circuit comprises a register storing and outputting the digital control signal to the limiting amplifier.

Claim 5 (currently amended): A laser transmitter, comprising:

an input stage receiving a first pair of differential signals and generating a second pair of differential signals with a steady voltage swing in response to the first signal pair of differential signals;

a control circuit outputting a digital control signal;

a limiting amplifier, comprising:

a first variable resistor having an input terminal coupled to a rail;

a second variable resistor having an input terminal coupled to an output terminal of the first variable resistor;

a third variable resistor having an input terminal coupled to the output terminal of the first variable resistor, wherein at least one of the first, the second, and the third variable resistors has a control terminal coupled to receive the digital control signal;

a differential pair comprising:

a first bipolar transistor having:

a collector coupled to an output terminal of the second variable resistor;

a base coupled to receive a first signal from the second pair of differential signals;

a second bipolar transistor having:

a collector coupled to an output terminal of the third variable resistor;

a base coupled to receive a second signal from the second pair of differential signals;

a first current source having:

an input terminal coupled to the collector of the first bipolar transistor;

a second current source having:

an input terminal coupled to the collector of the second bipolar transistor;

wherein output terminals of the first and the second current sources output a third pair of differential signals having (a) an improved rise and fall time over the second pair of differential signals and (b) an amplitude characteristic prescribed by the digital control signal;

a laser driver receiving the third pair of differential signals and generating a drive signal in response to the third pair of differential signals; and

a light source receiving the drive signal and generating a light in response to the drive signal.

Claim 6 (canceled).

Claim 7 (previously presented): The laser transmitter of claim 5, wherein at least one of the first, the second, and the third variable resistors comprises a voltage controlled resistor.

Claim 8 (original): The laser transmitter of claim 5, further comprising:

a programmable current source having an input terminal coupled to emitters of the first and the second bipolar transistors;

wherein at least one of the first, the second, and the third variable resistors and the programmable current source has a control terminal coupled to receive the digital control signal.

Claim 9 (previously presented): The laser transmitter of claim 10, wherein the control circuit comprises:

a register storing a digital control signal;

a digital-to-analog converter (DAC) receiving the digital control signal and generating the analog control signal to the limiting amplifier.

Claim 10 (previously presented): A laser transmitter, comprising:

an input stage receiving a first pair of differential signals and generating a second pair of differential signals with a steady voltage swing in response to the first pair of differential signals;

a control circuit outputting an analog control signal;

a limiting amplifier, comprising:

a first variable resistor having an input terminal coupled to a rail;

a second variable resistor having an input terminal coupled to an output terminal of the first variable resistor;

a third variable resistor having an input terminal coupled to the output terminal of the first variable resistor, wherein at least one of the first, the second, and the third variable resistors has a control terminal coupled to receive the analog control signal;

a differential pair comprising:

a first bipolar transistor having:

a collector coupled to an output terminal of the second variable resistor;

a base coupled to receive a first signal from the second pair of differential signals;

a second bipolar transistor having:

a collector coupled to an output terminal of the third variable resistor;

a base coupled to receive a second signal from the second pair of differential signals;

a first current source having:

an input terminal coupled to the collector of the first bipolar transistor;

a second current source having:

an input terminal coupled to the collector of the second bipolar transistor;

wherein output terminals of the first and the second current sources output a third pair of differential signals having (a) an improved rise and fall time over the second pair of differential signals and (b) an amplitude characteristic prescribed by the analog control signal;

a laser driver receiving the third pair of differential signals and generating a drive signal in response to the third pair of differential signals; and

a light source receiving the drive signal and generating a light in response to the drive signal.

Claim 11 (canceled).

Claim 12 (previously presented): The laser transmitter of claim 10, wherein at least one of the first, the second, and the third variable resistors comprises a voltage controlled resistor.

Claim 13 (original): The laser transmitter of claim 10, further comprising:

a programmable current source having an input terminal coupled to emitters of the first and the second bipolar transistors;

wherein at least one of the first, the second, and the third variable resistors and the programmable current source has a control terminal coupled to receive the analog control signal.

Claim 14 to 19 (canceled).

Claim 20 to 22 (canceled).